



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,238	10/12/2006	Shigenobu Nakamura	81880.0143	7219

26/021 7590 06/22/2009  
HOGAN & HARTSON L.L.P.  
1999 AVENUE OF THE STARS  
SUITE 1400  
LOS ANGELES, CA 90067

EXAMINER

SAN MARTIN, JAYDI A

ART UNIT

PAPER NUMBER

2837

NOTIFICATION DATE

DELIVERY MODE

06/22/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ctkeyner@hhlaw.com  
LAUSPTO@hhlaw.com  
lbrivero@hhlaw.com

### Office Action Summary

**Application No.**

10/573,238

**Applicant(s)**

NAKAMURA, SHIGENOBU

**Examiner**

Jaydi SanMartin

**Art Unit**

2837

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 April 2009.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24-60 is/are pending in the application.  
4a) Of the above claim(s) 24-36, 43, 44, 46, 47, 49, 50, 52, 53, 55, 56, 58 and 59 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 37-42, 45, 48, 51, 54, 57 and 60 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 12 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3,806,4,706  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of claims 37-42, 45, 48, 51, 54, 57, 60 in the reply filed on 4/13/09 is acknowledged.

### *Specification*

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Double Patenting*

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention", in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. Claims 37, 38, 39, 41, 42, 45, 51, 54, 57 and 60 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 33, 54-59 and 61-64 and of copending Application No. 10/573,331. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Instant Application SN 10/573238		Application SN 10/573331		
Claim #	Limitation	Claim #	limitation	Comments and explanations
37	<ul style="list-style-type: none"><li>▪ Multilayer piezoelectric element comprising a stack</li><li>▪ Internal electrodes made of Ag and Pd or Pt connected to external</li></ul>	33	<ul style="list-style-type: none"><li>▪ Multilayer piezoelectric element comprising a stack</li><li>▪ Internal electrodes made of Ag and Pd or Pt connected to external</li></ul>	Claim 33 in '331 claims all the elements in claim 37 of the instant

	<p>electrodes</p> <ul style="list-style-type: none"> <li>External electrodes made of Ag and glass</li> <li>Internal electrodes: proportion of silver contained in the conductive material of the internal electrode near the junction with the external electrode is higher than the proportion of silver contained in the conductive material of the internal electrode located inside the stack</li> </ul>		<p>electrodes</p> <ul style="list-style-type: none"> <li>External electrodes made of Ag and glass</li> <li>Internal electrodes: proportion of silver contained in the conductive material of the internal electrode near the junction with the external electrode is higher than the proportion of silver contained in the conductive material of the internal electrode located inside the stack</li> <li>Pd/Pt: M1 (% by weight)</li> <li>Ag: M2 (% by weight)</li> <li><math>0 &lt; M1 \leq 15</math>, <math>85 \leq M2 \leq 100</math> and <math>M1 + M2 = 100</math></li> </ul>	application.
38	<ul style="list-style-type: none"> <li>Proportion of silver contained in the internal electrode becomes higher toward the external electrode</li> </ul>	54	<ul style="list-style-type: none"> <li>Proportion of silver contained in the internal electrode becomes higher toward the external electrode</li> </ul>	
39	<ul style="list-style-type: none"> <li>The proportion of Ag contained in the internal electrode is 85% by weight or higher</li> </ul>	33	<ul style="list-style-type: none"> <li>Inherent in the limitation of Pd/Pt: M1 (% by weight) Ag: M2 (% by weight) <math>0 &lt; M1 \leq 15</math>, <math>85 \leq M2 \leq 100</math> and <math>M1 + M2 = 100</math>. Explicitly claimed in claim 55.</li> </ul>	
40	<ul style="list-style-type: none"> <li>The glass component contained in the external electrode exists in a region not more than 80% in thickness of the external electrode</li> </ul>	56	<ul style="list-style-type: none"> <li>The glass component contained in the external electrode exists in a region not more than 80% in thickness of the external electrode</li> </ul>	
41	<ul style="list-style-type: none"> <li>Glass component contains lead oxide or bismuth oxide</li> </ul>	57	<ul style="list-style-type: none"> <li>Glass component contains lead oxide or bismuth oxide</li> </ul>	
42	<ul style="list-style-type: none"> <li>Electrodes joined by diffusion</li> </ul>	58	<ul style="list-style-type: none"> <li>Electrically conductive material of the internal electrode diffuses into the external electrode.</li> </ul>	It should be noted that the non-structural limitations are being given little patentable weight.
45	<ul style="list-style-type: none"> <li>A glass-rich layer formed on the surface of the external electrode</li> </ul>	59	<ul style="list-style-type: none"> <li>A glass-rich layer formed on the surface of the external electrode</li> </ul>	
51	<ul style="list-style-type: none"> <li>Groove is formed between the end of the internal electrode and the external electrode, the groove being filled with an insulating material, wherein the insulating material has a Young's modulus lower than that of the piezoelectric material.</li> </ul>	61	<ul style="list-style-type: none"> <li>Groove is formed between the end of the internal electrode and the external electrode, the groove being filled with an insulating material, wherein the insulating material has a Young's modulus lower than that of the piezoelectric material.</li> </ul>	
54	<ul style="list-style-type: none"> <li>Electrically conductive assisting member formed from an electrically conductive adhesive containing a metal mesh or a mesh like metal sheet embedded therein on the external surface of the external electrode</li> </ul>	62	<ul style="list-style-type: none"> <li>Electrically conductive assisting member formed from an electrically conductive adhesive containing a metal mesh or a mesh like metal sheet embedded therein on the external surface of the external electrode</li> </ul>	
57	<ul style="list-style-type: none"> <li>The electrically conductive adhesive is polyimide resin having</li> </ul>	63	<ul style="list-style-type: none"> <li>The electrically conductive adhesive is polyimide resin having</li> </ul>	

	electrically conductive particles dispersed therein		electrically conductive particles dispersed therein	
60	▪ The electrically conductive particles are silver particles	64	▪ The electrically conductive particles are silver particles	

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claim 48 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 33 of copending Application No. 10/573331. Although the conflicting claims are not identical, they are not patentably distinct from each other because the Examiner takes Official Notice that it is well known in the art to select the thickness of the

electrodes to be smaller than the thickness of the piezoelectric layers that constitute the piezo stack.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaydi A. San Martin whose telephone number is 571-272-2018. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571-272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jaydi SanMartin/  
Primary Examiner  
Art Unit 2834

June 18, 2009